

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/743,667 Confirmation No.: 7614
Applicants : John Collier et al.
Filed : December 22, 2003
For : SUTURE ANCHORING DEVICE
TC/Art Unit : 3731
Examiner : Natalie R. Pous
Docket No. : ETH-5115
Customer No.: 27777

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

AMENDMENT

Sir:

Applicants respond to the Official Action of April 27, 2007 in the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 7 of this paper.

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A suture anchoring device comprising:

a first retaining member having a first surface, a second surface and a first outer edge; where the second surface lies in a first plane; the first retaining member having an opening that extends from the first outer edge to an inner point of the first retaining member;

a second retaining member having a third surface, a fourth surface, a fifth surface, a sixth surface and a second outer edge; where the third surface lies in a second plane and the fifth surface and the sixth surface lie nominally perpendicular to the second outer edge at their lines of intersection therewith;

a holding means positioned within the second retaining member, the holding means comprised of an opening extending from the fifth or the sixth surface to within the second retaining member; and

a coupler having a third outer edge and a cross-sectional area taken in a plane parallel to the first plane that is smaller than the cross-sectional area of the first retaining member taken in a plane parallel to the first plane; where the coupler joins the first retaining member to the second retaining member at the second surface and the third surface;

wherein the second and third surfaces are parallel to each other and non-coterminous and the opening on the first retaining member extends from the first outer edge to the third outer edge of the coupler.

Claims 2-6 (Cancelled).

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

Claim 7 (Previously presented): The suture anchoring device of claim 1, where the holding means opening further comprises an entrance and a rear surface and the width of the entrance is less than the width of the rear surface.

Claim 8 (Original): The suture anchoring device of claim 1, where the coupler is a cylindrical member.

Claim 9 (Original): The suture anchoring device of claim 1, where the coupler is a helical member.

Claim 10 (Original): The suture anchoring device of claim 1, where the cross-sectional area of the first retaining member taken in a plane parallel to the first plane is larger than the cross-sectional area of the second retaining member taken in a parallel plane.

Claim 11 (Original): The suture anchoring device of claim 1, where the cross-sectional area of the first retaining member taken in a plane parallel to the first plane is smaller than the cross-sectional area of the second retaining member taken in a parallel plane.

Claim 12 (Original): The suture anchoring device of claim 1, where the cross-sectional area of the first retaining member taken in a plane parallel to the first plane is substantially the same as the cross-sectional area of the second retaining member taken in a parallel plane.

Claim 13 (Original): The suture anchoring device of claim 1, where surfaces and corners are rounded.

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

Claim 14 (Cancelled).

Claim 15 (New): A suture anchoring device comprising:

a first retaining member having a first surface, a second surface and a first outer edge; where the second surface lies in a first plane; the first retaining member having an opening that extends from the first outer edge to an inner point of the first retaining member;

a second retaining member having a third surface, a fourth surface, a fifth surface, a sixth surface and a second outer edge; where the third surface lies in a second plane and the fifth surface and the sixth surface lie nominally perpendicular to the second outer edge at their lines of intersection therewith;

a holding means positioned within the second retaining member, the holding means comprised of an opening extending from the fifth or the sixth surface to within the second retaining member; and

a coupler having a third outer edge and a cross-sectional area taken in a plane parallel to the first plane that is smaller than the cross-sectional area of the first retaining member taken in a plane parallel to the first plane; where the coupler joins the first retaining member to the second retaining member at the second surface and the third surface;

wherein the second and third surfaces are parallel to each other and non-coterminous and the coupler is a cylindrical member.

Claim 16 (New): The suture anchoring device of claim 15, where the opening on the first retaining member extends from the first outer edge to the third outer edge of the coupler.

Claim 17 (New): The suture anchoring device of claim 15, where the opening on the first retaining member extends from the second surface to the first surface.

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

Claim 18 (New): The suture anchoring device of claim 15, where the cross-sectional area of the first retaining member taken in a plane parallel to the first plane is larger than the cross-sectional area of the second retaining member taken in a parallel plane.

Claim 19 (New): The suture anchoring device of claim 15, where the cross-sectional area of the first retaining member taken in a plane parallel to the first plane is smaller than the cross-sectional area of the second retaining member taken in a parallel plane.

Claim 20 (New): The suture anchoring device of claim 15, where the cross-sectional area of the first retaining member taken in a plane parallel to the first plane is substantially the same as the cross-sectional area of the second retaining member taken in a parallel plane.

Claim 21 (New): The suture anchoring device of claim 15, where surfaces and corners are rounded.

Claim 22 (New): A suture anchoring device comprising:

- a first retaining member having a first surface, a second surface and a first outer edge; where the second surface lies in a first plane; the first retaining member having an opening that extends from the first outer edge to an inner point of the first retaining member;

- a second retaining member having a third surface, a fourth surface, a fifth surface, a sixth surface and a second outer edge; where the third surface lies in a second plane and the fifth surface and the sixth surface lie nominally perpendicular to the second outer edge at their lines of intersection therewith;

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

a holding means positioned within the second retaining member, the holding means comprised of an opening extending from the fifth or the sixth surface to within the second retaining member; and

a coupler having a third outer edge and a cross-sectional area taken in a plane parallel to the first plane that is smaller than the cross-sectional area of the first retaining member taken in a plane parallel to the first plane; where the coupler joins the first retaining member to the second retaining member at the second surface and the third surface;

wherein the second and third surfaces are parallel to each other and non-coterminous and the coupler is a helical member.

Claim 23 (New): The suture anchoring device of claim 22, where the opening on the first retaining member extends from the first outer edge to the third outer edge of the coupler.

Claim 24 (New): The suture anchoring device of claim 22, where the opening on the first retaining member extends from the second surface to the first surface.

Claim 25 (New): The suture anchoring device of claim 22, where the holding means opening further comprises an entrance and a rear surface and the width of the entrance is less than the width of the rear surface.

Claim 26 (New): The suture anchoring device of claim 22, where the cross-sectional area of the first retaining member taken in a plane parallel to the first plane is smaller than the cross-sectional area of the second retaining member taken in a parallel plane.

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

REMARKS/ARGUMENTS

Claims 1, 3, 4 and 7 through 14 are pending in the instant application. The applicants have amended claim 1, support for which may be found within claim 3, as originally filed, and elsewhere throughout applicants' specification. New claims 15 through 26 have been added, support for which may be found in applicants' claims 1 through 14, as originally filed, and elsewhere throughout applicants' specification. Claims 3, 4 and 14 have been cancelled without prejudice or disclaimer of subject matter.

The Examiner has rejected claims 1, 4, 7 and 11 through 13 under 35 U.S.C. 102(b) as being anticipated by Fuchs et al., U.S. Patent No. 4,291,698. The Examiner has rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Kletschka et al., U.S. Patent No. 3,910,281, in view of Lyons et al., U.S. Publication No. 2004/0260344. The Examiner has objected to claims 3, 8 and 9 as being dependent upon a rejected base claim, but has indicated that they would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. The rejection of applicants' claims, as amended, is respectfully traversed. Reconsideration and favorable action is respectfully solicited in view of the following comments.

The Examiner has rejected claims 1, 4, 7 and 11 through 13 under 35 U.S.C. 102(b) as being anticipated by Fuchs et al., U.S. Patent No. 4,291,698. Fuchs et al., U.S. Patent No. 4,291,698, proposes a button for surgical applications comprising a disk having a slot which extends to a passage for guiding a thread therethrough within the circumference of the disk, said passage being sealed by a clamping device for clamping the thread firmly in the passage. The clamping device includes a disk segment movable parallel with the disk over

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

the slot and passage to a latched position where its inner marginal part is past the passage thereby bending the thread and holding it by friction and compression. The Examiner is of the view that:

Regarding Claim 1, Fuchs teaches a suture anchoring device comprising: a first retaining member (21) having a first surface, a second surface and a first outer edge; where the second surface lies in a first plane; the first retaining member having an opening that extends from the first outer edge to an inner point of the first retaining member; a second retaining member having a third surface, a fourth surface, a fifth surface, a sixth surface and a second outer edge; where the third surface lies in a second plane, and the fifth surface and the sixth surface lie nominally perpendicular to the second outer edge at their lines of intersection therewith; a holding means positioned within the second retaining member, the holding means comprised of an opening extending from the fifth or the sixth surface to within the second retaining member; and a coupler having a third outer edge and a cross-sectional area taken in a plane parallel to the first plane that is smaller than the cross-sectional area of the first retaining member taken in a plane parallel to the first plane; where the coupler joins the first retaining member to the second retaining member at the second surface and the third surface; wherein the second and third surfaces are parallel to each other and non-coterminous ...

The Examiner has correctly noted that the subject matter of applicants' claims 3, 8 and 9 is not taught within the four corners of Fuchs et al., U.S. Patent No. 4,291,698. While not necessarily agreeing with or acquiescing in the instant rejection, the applicants have amended claim 1 to incorporate the subject matter of claim 3, rendering this rejection moot. Moreover, new independent claims 15 and 22, which include all of the limitations of independent claim 1 and either dependent claims 8 or 9, respectively, are also believed to be allowable over the art of record. Additionally, new dependent claims 16 through 21 and 23 through 26 are believed to be allowable over the art of record, as they depend from either independent claim 15 or 22.

As stated in MPEP § 2131, in order to constitute anticipation under the law, a patent or publication must contain within its four corners a sufficient description to

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

enable the person of ordinary skill to make the invention without undue experimentation. All material elements of a claim must be found in one prior art source, a mere suggestion is not enough and essential elements are not to be read into a reference. If a reference does not expressly recite or disclose applicants' claimed invention, as is the case here, then, it is required under principles of inherency that the claimed subject matter be inevitably produced when the teachings of the relied upon reference are followed, in order for a proper case of anticipation to be found.

It is respectfully submitted that applicants' claimed invention is not fairly taught, and that following the teachings of Fuchs et al. would not inevitably produce the invention, as claimed. In view thereof, it is respectfully requested that the grounds for rejection of claims 1, 4, 7 and 11 through 13 under 35 U.S.C. 102(b) as being anticipated by Fuchs et al., U.S. Patent No. 4,291,698, be removed.

The Examiner has rejected claim 14 under 35 U.S.C. 103(a) as being unpatentable over Kletschka et al., U.S. Patent No. 3,910,281, in view of Lyons et al., U.S. Publication No. 2004/0260344. Kletschka et al., U.S. Patent No. 3,910,281, proposes a suture having a surgical needle connectable to one end has an enlarged anchoring member secured to the other end thereof. A lateral projection is said to be provided on the anchoring member. It is proposed that the lateral projection be grasped by a physical instrument to position the anchor member during the suture tying procedure and a slit formed in the anchor member is said to releasably secure the suture to the anchor member for subsequent tensioning adjustments.

Lyons et al., U.S. Publication No. 2004/0260344, proposes a suture lock to be used with a suture thread. The suture lock is said to comprise at least one passageway for receiving a suture thread, with the passageway having at least a

portion of its length having a longitudinal side opening arranged to slidably receive the suture. The passageway is tapered inwardly and including an interior surface having inwardly converging teeth. The invention may also comprise a suture lock having an adjustable channel located within the suture lock. The channel may be adjusted between an open and a closed position, thereby allowing the suture to be secured. Translation of the suture itself may be utilized to adjust the positioning of the channel. It is suggested that the suture lock could contain a releasable device to retain the channel in multiple positions between the closed and open position.

With regard to these grounds for rejection, the Examiner has taken the position that:

Kletschka teaches a method of securing a suture used in a surgical procedure comprising the steps of: (a) locating a suture anchoring device (10e) in the proximity of a suture site, the suture anchoring device comprising: a first retaining member (24e) having a first surface, a second surface and a first outer edge; where the second surface lies in a first plane; the first retaining member having an opening (19e) that extends from the first outer edge to at least partially through the second surface to an inner point of the first retaining member; a second retaining member (18e) having a third surface, a fourth surface and a second outer edge; where the third surface lies in a second plane, the second retaining member having a holding means (19e); a coupler (23e) having a third outer edge and a cross-sectional area taken in a plane parallel to the first plane that is smaller than the cross-sectional area of the first retaining member taken in a plane parallel to the first plane; where the coupler joins the first retaining member to the second retaining member at the second surface and third surface; wherein the second and third surfaces are parallel to each other and non-coterminous (fig. 7); (c) wrapping the suture (11e) around the third outer edge of the coupler (23e); and (d) introducing the suture into the holding means (fig. 7). Kletschka fails to teach introducing the suture into said opening. Lyons teaches a suture anchor comprising an opening (36) and a holder (22), wherein the suture is introduced to both the introducer and the holder (fig. 10) in order to securely attach the suture to the anchor. It would have been an obvious to one of ordinary skill in the art at the time the invention was made to introduce the suture to the opening as well as the holder in order to aid in securing the suture to the anchor as taught by Lyons, since Kletschka has disclosed that the suture may be introduced to either the holder or the opening.

Application No.: 10/743,667
Amendment Dated: August 27, 2007
Reply to Office Action Mailed April 27, 2007

While not necessarily agreeing with or acquiescing in the instant rejection, the applicants have cancelled claim 14, without prejudice or disclaimer of subject matter, in order to place this important case in condition for allowance. In view thereof, it is respectfully requested that the grounds for rejection of claim 14 under 35 U.S.C. 103(a) as being unpatentable over Kletschka et al., U.S. Patent No. 3,910,281, in view of Lyons et al., U.S. Publication No. 2004/0260344, be withdrawn.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Account No. 50-2478(13792).

In view of the foregoing, it is respectfully submitted that the present claims re in condition for allowance. Prompt notification of allowance is respectfully solicited.

Respectfully submitted,

Date: August 27, 2007



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